



006174

सत्यमेव जयते

CALIBRATION CERTIFICATE



भारत सरकार

उपभोक्ता मामले, खाद्य एवं सार्वजनिक वितरण मंत्रालय

Government Of India

Ministry Of Consumer Affairs , Food and Public Distribution

राष्ट्रीय परीक्षण शाला (पूर्वी क्षेत्र)

National Test House

ब्लॉक-सी.पी., सेक्टर-5, साल्ट लेक सिटी, कोलकाता-700 091

Block - CP , Sector - V , Salt Lake City , Kolkata - 700 091

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भारत सरकार
Government Of India
राष्ट्रीय परीक्षण शाला (पूर्वी क्षेत्र)
National Test House (Eastern Region)
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FORM NO :NTH/SL/F/5



NABL ACCREDITED LABORATORY

006174

CALIBRATION CERTIFICATE
of THREE PHASE ENERGY METER

Certificate No. NTH(ER)/CAL(EL)/2008/0017
Date 24.04.2008

Date of Calibration 23.04.2008
Page 01
No. of Pages 02

Issued to M/s M.B.Control & Systems Pvt. Ltd.,
31/1, Ahiripukur Road,
Kolkata - 700 019

Party's Ref. No. MBCS/08-09/1701/055939
Dated. 22.04.2008

1. Description & Identification of EUC*
Three Phase Energy Meter
Model: PM130EH PLUS
Make: SATEC
Serial No. 737363

2. EUC* received on 22.04.2008

3. Test Procedure followed NTH/WATT/01 and on the lines of IEC 62053
- 22 (2003)

4. Environmental Conditions
Temperature: 25±1 deg C
Relative Humidity: 65 - 75%

5. Major Standards Used Rotek Power/Energy Calibrator, USA.

6. Traceability of Measurement NPL, New Delhi

7. Calibration Carried out at (NTH/On site) NTH

8. NTH Identification Mark on the Label NTH(ER)/CAL(EL)/2008/0017

Calibrated by
V. Sivaguru
SA (Elect.)

Checked by
Avijit Das
Sc.SC (Elect.)

Approved by
Avijit Das
Sc.SC (Elect.)



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Certificate No. Date
NTH(ER)/CAL(EL)/2008/0017 24.04.2008

Date of Calibration Page No. of Pages
23.04.2008 02 02

9.Results of Test:

As desired the sample was subjected to accuracy test of energy, on the lines of IEC: 62053 – 22 (2003) and the results given below:

Parameter: AC Power at 110V, 1A at 50Hz

Sl. No.	Specified Current	Power Factor	Value of Set Current	Error observed in %	Error limits as per IEC: 62053 – 22 (2003) in %	Expanded Uncertainty, k=2
1	$0.01 I_n \leq I < 0.05 I_n$	UPF	$0.01 I_n$	0.38	± 0.4	$6.17E-03$
2			$0.045 I_n$	0.35	± 0.4	$6.80E-03$
3			$0.05 I_n$	0.18	± 0.2	$6.24E-03$
4	$0.05 I_n \leq I \leq I_{max}$	UPF	I_{max}	0.16	± 0.2	$1.47E-02$
5			0.5Lag	$0.02 I_n$	± 0.5	$1.02E-03$
6			0.8Lead	$0.02 I_n$	± 0.5	$1.50E-03$
7	$0.02 I_n \leq I < 0.1 I_n$	0.5Lag	$0.09 I_n$	0.44	± 0.5	$9.92E-04$
8			0.8Lead	$0.09 I_n$	± 0.5	$1.84E-03$
9			0.5Lag	$0.1 I_n$	± 0.3	$2.14E-03$
10	$0.1 I_n \leq I \leq I_{max}$	0.8Lead	$0.1 I_n$	0.23	± 0.3	$1.84E-03$
11			0.5Lag	I_{max}	± 0.3	$2.94E-03$
12			0.8Lead	I_{max}	± 0.3	$1.52E-02$
13	$0.1 I_n \leq I \leq I_{max}$	0.25Lag	$0.1 I_n$	0.45	± 0.5	$4.10E-03$
14			0.5Lead	$0.1 I_n$	± 0.5	$3.20E-03$
15			0.25Lag	I_{max}	± 0.5	$4.71E-02$
16		0.5Lead	I_{max}	0.44	± 0.5	$4.65E-02$

EUC* - Equipment Under Calibration

The meter complied to the requirements of Cl. 8.1 of IEC: 62053 - 22(2003) for accuracy - 0.2 S Class

10. Next calibration due on: 23.04.2009

Calibrated by
V. Sivaguru
SA (Elect.)

Checked by
Avijit Das
Sc.SC (Elect.)

Approved by
Avijit Das
Sc.SC (Elect.)